In addition, a common theme in recommendations concerning effective control of marine invasive species is the development of effective field monitoring programs. Field programs are needed for early detection, to track the rate of spread of invaders, and to determine their ecological impacts. Effective monitoring programs also can provide data for evaluating the efficacy of vector interdiction or other control programs. An effective, bi-national field monitoring program (Australia and the U.S.) should be developed in conjunction with the proposed project to address introductions of invasives. Such a program should be highly coordinated, implemented across a network of sites, and include robust, standardized measures of species composition, distributions, and abundances over time. G437-173

Significant Noise Impacts on Marine Mammals

The proposed construction and long-term operation of the Cabrillo Port LNG terminal will involve significant alteration of the marine acoustic environment, in large areas around project construction sites, standard operations vessels and facilities, including the floating storage and regasification unit (FSRU), pipe-laying vessels, and over large areas of Southern California ocean surrounding the designated routes of the LNG carrier ships. The DEIS/R lacks a great deal of critical analysis and discussion of the known range of impacts to marine biological resources from the project's noise emissions, and instead relies on understatement and unsupported conclusions for many of its findings. G437-174

Operations

According to the analysis in the DEIS/R, the FSRU's baseline broadband (22 Hz – 11.3 kHz) underwater signal (the sum of its acoustic emissions during standard operations), will have a projected source level of 182 dB re 1µPa, and will remain perceptible above the area's ambient marine sound levels over a radius of at least 7 km "on a windy day."[41] This represents the baseline, temporally indefinite ensonification of approximately 150 square kilometers[42] of ocean, and covers a considerable quantity of known habitat for many marine protected species[43] already suffering reduced habitat availability in the heavily industrialized Southern California Bight. Acoustic emissions from the FSRU will be considerably greater (~192 dB) when the unit engages thrusters during positioning of a loaded LNG carrier.[44] This sporadically conducted operation will further increase the radius of habitat ensonification. G437-175

Concurrent with FSRU operations, LNG carrier ships would likely emit significant amounts of sound energy into the ocean as they travel regularly to and from the FSRU. The DEIS/R misleadingly states: "Vessel noises are usually transitory and relatively short lived."[45] This conclusion is made without reference to individual LNG carrier vessel specifications or in the context of collective carrier vessel transits over time. Nor is evidence cited to reinforce this G437-176

[41] Id. page 4.7-52.
[42] $A = pr^2$
[43] DEIS/EIR, Table 4.7-5.
[44] Id., page 4.7-52.
[45] Id.

G437-173
See response to Comment G437-172.

G437-174
Section 4.7.4 under Impacts BioMar-3 and -5 addresses this topic.

G437-175
Section 4.7.4 under Impacts BioMar-3 and -5 addresses this topic.

G437-176
Section 4.7.4 under Impacts BioMar-3 and -5 addresses this topic.

claim. In fact, data on similar commercial vessels reveal the opposite: according to NRC (2003), tanker ships between 153 and 366 m in length produce peak source levels of between 175 and 189 dB, at frequencies under 25 Hz.[46]. Such emissions have very low attenuation rates, and thus pervade over extremely long distances. For example, Ross (1976) reports that low-frequency tones from a single large vessel are evident in sound readings from 139 to 463 km away[47], demonstrating the vast geographic area of ensonification from just a single commercial ship. As NRC reports, the high sound levels of cargo vessel emissions make it so "very large geographic areas are affected," by vessel traffic, and even distant ship passage "contributes to the general acoustic environment."[48] Unsurprisingly, measurements of ambient ocean acoustics off California in the 1950's, '70's and 90's documented a net elevation of more than 20 dB (or two orders of magnitude) over the half-century, which researchers attributed solely to a steadily increasing volume of large vessel traffic.[49]

G437-176 cont.

For a complete analysis of environmental impacts, the DEIS/R must specify the acoustic output of the LNG carrier vessels as well as for the FSRU. In both aspects of project operations, the proposed project will establish definite patterns of industrial activity in previously undeveloped areas (a moored FSRU and LNG tanker routes traveled up to 6 times weekly). The subsurface noise from these activities has significant potential for environmental impact, which must be thoroughly investigated, and, as appropriate, mitigated.

G437-177

By contributing an unmitigated quantity of noise to the ambient acoustics of the surrounding ocean, sonic emissions from the project's construction and operation activities may *significantly* impact several marine mammal species[50] protected under both the Endangered Species Act and the Marine Mammal Protection Act. The regularity of carrier vessel traffic and FSRU operations may negatively impact gray whale (*Eschrichtius robustus*) migration patterns, which already face significant harassment during migration from private boaters, existing commercial vessel traffic, and coastal industrialization. Other such species, such as blue whales (*Balaenoptera musculus*), fin whales (*Balaenoptera physalus*), and humpback whales (*Megaptera novaeangliae*) have evolved to depend on successful vocal communications with conspecifics for reproduction and foraging, and depend greatly on hearing for navigation and predator avoidance.[51] [52]

G437-178

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[46] National Research Council (NRC), *Ocean Noise and Marine Mammals*, National Academy Press, Washington, D.C (2003).
[47] Ross, D., *Mechanics of Underwater Noise*, Pergamon Press, New York, 375 pp. (1976).
[48] National Research Council (NRC), *Ocean Noise and Marine Mammals*, National Academy Press, Washington, D.C. (2003).
[49] Andrew, R. K., Howe, B. M. & Mercer, J. A, *Ocean ambient sound: Comparing the 1960s with the 1990s for a receiver off the California coast*, Acoustic Research Letters Online 3: 65–70 (2002).
[50] Some non-mammalian pelagic species, such as sea turtles, may be similarly be impacted, but the Draft EIS/EIR does regrettably does not address noise impacts on other species.
[51] Richardson, W.J., C.R. Greene, C.I. Malme, and D.H. Thomson, *Marine Mammals and Noise*. Academic Press, San Diego, CA, 576 pp. (1995).
[52] Croll, Donald A., et al., *Bioacoustics: Only male fin whales sing loud songs*, Nature 417: 809.

G437-177
Section 4.7.4 under Impact BioMar-3 addresses this topic.

G437-178
Mitigation measures have been added to address this impact. See Section 4.7.4 under Impact BioMar-5.

Unfortunately, evidence is growing that anthropogenic noise, particularly persistent, low-frequency sound emissions, can mask these critical sound-based signals and thus impinge on the success of these essential behaviors. Whale researchers writing in *Nature* state:

> An increase in ambient noise could… reduce the distance over which receptive females might hear the vocalizations of males. To the extent that growth of *Balaenoptera* populations is limited by the encounter rate of receptive females with singing males, the recovery of fin- and blue whale populations from past exploitation could be impeded by low-frequency sounds generated by human activity. (Croll et al. 2002).[53]

More recently, the National Research Council discussed the potential impact of masking on cetaceans, stating:

> In the case of a severely depleted population, the ability of males and females to find each other using acoustic cues could become vital for the well-being of the species. If additional noise reduced acoustic range by masking and effective reproduction were compromised, the consequences for individuals and populations could be very significant. (NRC 2003)[54]

Both fin and blue whales occur in and around the project area[55], and the stocks of both species known to range into the project area are considered "depleted" under the MMPA.[56] However, the DEIS/R fails to discuss the project's potential to impact these depleted populations through acoustic masking— a major omission considering the scale and regularity of noise-producing activity, and the indeterminate lifespan of the project.

Furthermore, because regular LNG tankering and FSRU operations as proposed will involve long-term, unmitigated ensonification of large areas of ocean documented as habitat for protected marine species,[57] and because that ensonification is scientifically associated with adverse impact on those protected species (see above), the general operations of the project may represent an alteration of the habitat of these marine protected species in ways that impinge on individual and population survival. Such acoustical habitat alteration could also result in exclusion from areas previously suitable for foraging, migration and reproduction. Duly, several of the Significance Criteria for impacts to "All Living Marine Resources" articulated in the DEIS/R may be triggered by the project's implications for protected marine mammal species. According to the DEIS/R, "impacts to all living marine resources, including… marine mammals, are considered significant if the project:

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[53] Id.
[54] *Ocean Noise and Marine Mammals*
[55] DEIS/R, Table 4.7-5.
[56] Carretta, J.V., et al., *U.S. Pacific Marine Mammal Stock Assessments: 2003*, NOAA Technical Memorandum NMFS, Southwest Fisheries Science Center, La Jolla, CA. (March 2004)
[57] Id.

- Substantially adversely affects, either directly of through habitat modifications, any species identified as a listed, candidate, sensitive, or special status species in local or regional plans, policies or regulations or by the CDFG or USFWS.
- Degrades the quality of the environment… reduces the range of a rare or endangered species….
- Alters or destroys habitat that prevents re-establishment of biological communities that inhabited the area prior to the project."[58]

Existing scientific data suggests that noise emissions from standard Cabrillo Port operations, including FSRU and shipping activities, could result in any or all of the above outcomes through the masking of sounds critically important to "depleted" and "endangered" cetacean populations. Unfortunately the draft EIS/EIR fails to demonstrate that the project will not cause such impacts despite contrary evidence in the scientific record. G437-179

As written, the DEIS/R acknowledges that noise emissions from project operations will result in impacts to marine mammal species, but does not recognize that these impacts may be significant. In its review of impacts, the DEIS/R states: G437-180

> Noise from construction and operation vessels or equipment could disrupt migrations; interfere with or mask communications, prey and predator detections, and/or navigation; cause adverse behavioral changes; or result in temporary or permanent hearing loss.[59]

Strangely the DEIS/R gives no further details on how operation vessels (including LNG carriers, presumably) or equipment may be involved in these impacts, or describe any measures to mitigate noise production or prevent the interference or masking of communications. The stated mitigation measures— avoiding offshore construction during gray whale migration season, and the conducting of "marine mammal monitoring" from construction and supply vessels[60]— fall woefully short of addressing the range of impacts on some marine mammals that existing scientific data suggest are possible from the noise emissions associated with proposed project's operations. G437-181

The DEIS/R fails to present reasoning or evidence that such impacts will *not* occur, despite scientific research showing otherwise. A complete analysis must include a rigorous review of pertinent science, and a scientifically credible explanation in the DEIS/R as to why impacts from masking and other consequences of project noise emissions will *not* be significant. This analysis must include discussion of long-term ambient noise level increases and masking as a result of project operations under impacts *BioMar-2*[61] and *BioMar-14*.[62] G437-182

[58] DEIS/EIR, page 4.7-32
[59] Id., page 4.7-51
[60] Id., page 4.7-54
[61] Id., page 4.7-39
[62] Id., page 4.7-61

G437-179
Section 4.7.4 under Impacts BioMar-3 and BioMar-5 provides additional information on this topic.

G437-180
Section 4.7.4 under Impact BioMar-3 and BioMar-5 provides additional information on this topic.

G437-181
Impact BioMar-5 in Section 4.7.4 addresses this topic.

G437-182
Section 4.7.4 under Impact BioMar-5 contains additional information on this topic.

All such analysis must relay the mechanical and acoustical specifications of the LNG carrier vessels to be used (this data is also relevant to assessing project safety and impacts to existing marine traffic as well as to marine biological resources), and should also conduct sound propagation modeling along LNG carrier approach routes and at the FSRU mooring site. This information is essential for properly assessing impacts on protected marine species and associated habitat, and developing appropriate mitigation measures to reduce impacts from project noise on protected marine mammal species and their habitat. **G437-183**

Construction

The DEIS/R correctly identifies that extremely loud and persistent noises from construction operations, namely dynamic positioning pipe-laying vessels, can be "easily heard underwater some 15 miles from a construction site"[63], and does propose some mitigation measures to reduce impact on marine mammals spotted in the immediate vicinity of construction activities.

Unfortunately, the DEIS/R fails to acknowledge that acoustic emissions from pipeline construction are equivalent to the ensonification of approximately 700 square miles (based on a stated 15 mile radius of "perceptibility") of ocean area surrounding the pipe-laying operations, and that the vessel's stated source level of 172 dB re 1 µPa is well above the 160 dB threshold established by NOAA for underwater harassment of baleen and sperm whales.[64]. G437-184

Furthermore, there is insufficient information in the DEIS/R that implementation of the applicant's mitigation measures ("AMMs") would reduce impacts to a less than significant level. The AMMs only avoid construction during migration season of one of many marine mammal species that inhabit the area, and provision of marine mammal "monitors." The AMMs do not include any mitigation measures for sound emissions, such as bubble screens or other noise-dampening technology, or articulate any least practicable alternatives that would reduce impacts on resident mammal communities. G437-185

Additionally, the DEIS/R fails to adequately analyze the possibility of significant entrainment and impingement of organisms due to seawater intake and discharge to cool diesel generators on FSRU. G437-186

The DEIS/R fails to adequately analyze the likely damage to hard-bottom sea substrates and associated communities that will result from the construction and operation of the undersea pipeline. G437-187

[63] Id., page 4.7-51
[64] Id. Table 4.7-9

G437-183
LNG carriers are regulated by MARPOL and USCG. Noise generated by LNG carriers while transiting the open ocean are beyond the scope of the EIS/EIR.

G437-184
Section 4.7.4 addresses this topic under Impact BioMar-5, which has been revised in response to the comment.

G437-185
AMMs are now termed AMs - Applicant measures. AMs are part of the Project and not mitigation measures.

Section 4.7.4 lists additional mitigation measures to address this impact (see Impact BioMar-5).

G437-186
Appendix H1, Section 4.7.1.3, and Impact BioMar-3 in Section 4.7.4 address this topic.

G437-187
Section 4.7.1.1 and Impacts BioMar-1 and -3 in Section 4.7.4 address this topic.

Dr. Darlene Ketten, of Harvard Medical School and Woods Hole Oceanographic Institute, states:

> While auditory trauma, particularly from short or single exposures may impair an individual [marine mammal], that is unlikely to impact most populations. Long term constant noise that disrupts a habitat or key behaviour is more likely to involve population level effects. In that sense, the question of individual hearing loss or animal loss form a single intense exposure is far less relevant to conservation than more subtle, literally quieter but pervasive source that induces broad species loss or behavioural disruption.[65]

"Long term constant noise" is exactly what the Cabrillo Port project will emit into the underwater ecology off Southern California's coast; duly, the DEIS/R must fully examine the potential for population-level impacts due to this habitat and behavior alteration, as well as impacts to individual marine mammals, that may result from project construction and operations. These potential impacts are both plausible and represent much significant peril for the environment and biological resources of the proposed project area, and yet the draft DEIS/R negligently ignores them.

Conclusion – Marine Resources

Because the Marine Resources analysis is missing critical information, contains a large number of errors in its analysis and identification of impacts, and fails to propose appropriate mitigation measures, the DEIS/R needs to be revised, and a revised draft needs to be recirculated to provide the public and other agencies an opportunity to review and comment on the document. The document as it currently stands is of little use to public agencies that will need to consider permits and mitigation of impacts. G437-188

4.8 BIOLOGICAL RESOURCES – TERRESTRIAL

As discussed in greater detail below, the discussion of terrestrial biological resources in the DEIS/R:

- Fails to adequately describe and in some cases improperly defers identification of the existing biological baseline G437-189
- Defers analysis of some biological effects until after public NEPA/CEQA environmental review G437-190
- Defers the formulation of mitigation measures for some biological impacts until after public NEPA/CEQA environmental review G437-191
- Identifies a project's failure to comply with local, regional, and state policies as a "Significance Criteria" for determining when biological impacts are significant, but fails G437-192

[65]/ Ketten, D.R. 1998. (Contract report) "*Marine mammal auditory systems: A summary of audiometric and anatomical data and its implications for underwater acoustic impacts*." NOAA Technical Memo NOAA-TM-NMFS-SWFSC-256. 74p.

G437-188
The document has been recirculated as a Revised Draft EIR, and reviewers were given 60 days to comment on its revisions.

G437-189
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed surveys of the pipeline rights-of-way in accordance with California Department of Fish and Game protocol. Surveys included a wetland delineation survey that meets the California Coastal Commission and California Department of Fish and Game wetland definition, botanical and wildlife surveys for Federal and State listed species, a wintering waterfowl survey, a burrowing owl survey, and surveys to determine whether any oak trees would need to be removed during construction. Section 4.8 has been updated with the results of these surveys, and Section 4.8.4 contains updated mitigation measures. Additional preconstruction plant and wildlife surveys, specific to the final construction timeline and designated pipeline alignment, would be completed for special status species, federally listed species, or California protected species specified by the USFWS or the CDFG, to minimize the potential for causing mortality of local wildlife. However, for purposes of the impact analyses and resultant mitigation, all relevant species are presumed to exist in the vicinity of the proposed Project.

G437-190
See the response to Comment G437-189.

G437-191
See the response to Comment G437-189.

G437-192
See the response to Comment G437-189.

to apply this criterion and analyze consistency with specific relevant local and state plans and policies for the protection of biological resources.

These defects frustrate effective impact analysis and make it impossible for the public, other agencies, and decision-makers to determine what impacts the proposed action will have, how these impacts are mitigated or avoided, and whether there are other feasible alternatives to the proposed action. Accordingly, the DEIS/R must be revised and recirculated to provide this missing information in order to meet the basic requirements of NEPA and CEQA. G437-193

4.8.1 Environmental Setting

The DEIS/R fails to describe the existing, baseline biological resources (including habitats and species) sufficiently to facilitate an assessment of how the proposed action may impact those resources. Under NEPA and CEQA, an EIS or EIR must describe the physical environmental conditions, as they exist in the vicinity of the project at the time the CEQA Notice of Preparation is issued or when environmental review is otherwise commenced.[66] The description of the baseline setting must include enough information for DEIS/R readers to understand what resources might be significantly affected by the proposed project and the alternatives. However, in this case, the description of the environmental setting is inadequate for several reasons and as a result the significant environmental effects remain unknown to readers of the DEIS/R. G437-194

Wetlands

The DEIS/R states (p. 4.8-2:2) that a wetland delineation survey "identified all wetlands []." However, the DEIS/R only recognizes a subset of the wetland habitats potentially impacted by this project. Therefore, it fails to adequately describe the baseline wetland conditions. The identification of wetlands is limited to only those wetlands meeting the U.S. Army Corps of Engineers' relatively narrow definition of wetlands; the DEIS/R thus excludes wetlands as defined by the California Coastal Commission, Department of Fish and Game, and the U.S. Fish and Wildlife Service. For an area to be a wetland under the Corps' definition, it must meet *each* of three parameters (wetland soil, wetland plants and wetland hydrology). However, since the Corps methodology was developed for the east coast, other agencies apply a more liberal and geographically appropriate definition of wetlands, which requires only that an area must meet *at least one* of the three criteria to be considered a wetland. Since the DEIS/R excludes all areas that meet only one or two criteria, it does not provide a complete and accurate description of the wetland baseline. On the contrary, if the less restrictive wetland definition is applied, it is probable that the project will impact a greater number, variety, and acreage of wetland habitats. G437-195

Moreover, the DEIS/R expressly adopts significance criteria that acknowledge that impacts to habitats (including wetlands) that are "recognized specifically as biologically significant in local, State, or Federal policies, statutes, or regulations" are significant impacts. (DEIS/R, p. 4.8-30, emphasis added.) Therefore, the DEIS/R is remiss and flawed for not considering wetlands that G437-196

[66]/ 40 CFR 1502.15; CEQA Guidelines §15125(a).

G437-193
See the response to Comment G437-188 and G438-189.

G437-194
See the response to Comment G437-189.

G437-195
As stated in Section 4.8.1, wetlands within the coastal zone were delineated using California Coastal Commission and California Department of Fish and Game wetland definitions.

G437-196
See the response to Comment G437-195.

meet the California Coastal Commission, California Department of Fish and Game, and US Fish and Wildlife Service definition of wetlands as part of the DEIS/R biological baseline.

Sensitive Plant and Wildlife Species and California Natural Diversity Data Base

The DEIS/R relies on the California Natural Diversity Data Base (CNDDB) to identify sensitive plant (p. 4.8-36) and wildlife (p. 4.8-12) species but this Data Base is not complete and is not a substitute for project site surveys. The CNDDB contains a disclaimer about its utility for CEQA documents which states, in part, "while the information is complete and accurate to the best of our knowledge and ability, it does not constitute an official response from any state agency and will not itself meet the requirements of … [CEQA]. Information supplied is based on the material available at the time of request and should not be regarded as complete data on the elements or areas being considered." G437-197

Site-specific surveys for sensitive species have not been conducted as acknowledged in the DEIS/R: "A comprehensive botanical survey has not been conducted; therefore, it is not known whether the rare or special status plants along the proposed pipeline route are present. Specific information regarding special status species is derived from the CNDDB." (p. 4.8-36.) G437-198

Applicant Mitigation Measures TerrBio-2a and -2b on pages 4.8-37 and 4.8-38 acknowledge that surveys are needed and would be conducted prior to construction to determine if special status species are present in the project site. However, this is too late to determine the baseline biological conditions which, as noted above, must be described in the DEIS/R to facilitate accurate impact assessment and meaningful review by the public and other agencies. Without identifying whether these species are present before impact analysis in the DEIS/R, there is no way to ascertain if, how, where and to what degree specific special status species would be impacted. Consequently, it will also be impossible to determine in the context of the public NEPA/CEQA review if impacts to any special status species or their habitats can be avoided or what level of mitigation will be adequate to lessen this impact to the maximum extent feasible as required under CEQA. Thus, the insufficiently-described biological baseline undermines the DEIS/R's ability to identify, evaluate, and avoid or mitigate impacts, and deprives the public, responsible agencies and the lead agency of information about the extent of impacts and whether the impacts can be avoided or substantially lessened. G437-199

Oxnard Plain Agricultural Drainages Surface Water Features were apparently not surveyed for native aquatic resources (page 4.8-12). These features should be surveyed for special status plant and wildlife species that could be significantly affected by the proposed project. G437-200

4.7.1.2 Oxnard Plain Pipeline Route

The description of the proposed pipeline route through the Oxnard Plain lacks details necessary to ascertain the significance of impacts to biological resources. The DEIS/R plainly states that the final pipeline route has not yet been selected and as a result the DEIS/R is inadequate for failing to describe the project with enough information to facilitate analysis of environmental G437-201

G437-197
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed surveys of the pipeline rights-of-way in accordance with California Department of Fish and Game protocol. Surveys included a wetland delineation survey that meets the California Coastal Commission and California Department of Fish and Game wetland definition, botanical and wildlife surveys for Federal and State listed species, a wintering waterfowl survey, a burrowing owl survey, and surveys to determine whether any oak trees would need to be removed during construction. Section 4.8 has been updated with the results of these surveys, and Section 4.8.4 contains updated mitigation measures. Additional preconstruction plant and wildlife surveys, specific to the final construction timeline and designated pipeline alignment, would be completed for special status species, federally listed species, or California protected species specified by the USFWS or the CDFG, to minimize the potential for causing mortality of local wildlife. However, for purposes of the impact analyses and resultant mitigation, all relevant species are presumed to exist in the vicinity of the proposed Project.

G437-198
See the response to Comment G437-197.

G437-199
See the response to Comment G437-197.

G437-200
As stated in Section 4.8.1.2, agricultural drainages do not provide suitable long-term habitat for native aquatic resources.

G437-201
Terrestrial biological resources were evaluated within a pipeline corridor that would include the construction and permanent rights-of-way. Even though the precise alignment of the pipeline within the corridor would not be determined until final engineering design, the impacts within the corridor have been evaluated. It is anticipated that onshore Project pipelines would be covered by SoCalGas' existing franchise agreements, which are discussed in Section 4.13.2.

impacts. In addition, the applicant has not determined whether trenching or HDD would be used to cross a tributary to the ecologically sensitive Mugu Lagoon and other sensitive water bodies, and therefore the DEIS/R lacks the information needed to determine if these crossings will cause significant impacts. Under CEQA, an EIR must include enough details about the project to enable it to evaluate the significance of project impacts.[67] In this case, by deferring determinations about how to cross certain sensitive habitats including the agricultural drainage feeding the Mugu Lagoon, the DEIS/R lead agencies deprive the public, other agencies, and decision-makers of information about the project and how it could affect the existing biological resources. Tidewater goby, a federally Threatened species exists in Ormond Lagoon and in Mugu Lagoon and its tributary, and could be significantly impacted. The DEIS/R defers identification of project elements by noting that "[e]ngineering studies would be required to determine which installation method would be feasible, and which method would be permitted/approved by regulatory agencies." (DEIS/R, p. 4.8-34.)

G437-202

Similarly, the DEIS/R improperly defers identification of the crossing methods to be used for a number of waterway crossings. The method of installation must be known before the DEIS/R is circulated for review so that its readers can determine if, how, where and to what extent the proposed action may affect the environment. Instead, the DEIS/R defers describing this important aspect of the project to a later point in time after the NEPA/CEQA public review period is over. The DEIS/R must not defer describing the project. It must describe the proposed pipeline route and crossing methods so that impacts to the Mugu Lagoon, its tributary, other water bodies, and the biological resources present there, potentially including Tidewater gobies can be properly identified, assessed and mitigated in the context of this public NEPA / CEQA review process.

G437-203

4.8.4 Impact Analysis

Rather than analyzing and disclosing the project's impacts on biological resources, the DEIS/R defers identification of biological impacts to a later time, after project site surveys are conducted and after more definition is given to the project description. Only then will sufficient information be known about the existing conditions and about the proposed project to facilitate impact analysis. However, that is exactly why a DEIS/R must adequately describe the project and the baseline conditions. By deferring these essential NEPA and CEQA requirements, the DEIS/R fails to fulfill its primary purpose – identifying significant environmental impacts so they can be avoided or mitigated.

G437-204

Deferral of Identification and Analysis of Impacts to Sensitive Biological Resources

Measure AMM TerrBio-2b (the "Biological Resources Mitigation and Monitoring Plan") defers analysis of the proposed action contrary to the requirements of NEPA and CEQA. The BRMIMP "would identify … all sensitive biological resources to be impacted, avoided or mitigated," a task that the DEIS/R is supposed to perform. By deferring rather than including

G437-205

[67]/ CEQA Guidelines § 15124.

G437-202
Section 4.8.4 describes methods for each waterbody crossing on the proposed Center Road Pipeline and the Line 225 Pipeline Loop. Impact TerrBio-1 includes a discussion about the measures that would be used to avoid impacts on the tidewater goby.

G437-203
See the response to Comment G437-202.

G437-204
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed surveys of the pipeline rights-of-way in accordance with California Department of Fish and Game protocol. Surveys included a wetland delineation survey that meets the California Coastal Commission and California Department of Fish and Game wetland definition, botanical and wildlife surveys for Federal and State listed species, a wintering waterfowl survey, a burrowing owl survey, and surveys to determine whether any oak trees would need to be removed during construction. Section 4.8 has been updated with the results of these surveys, and Section 4.8.4 contains updated mitigation measures. Additional preconstruction plant and wildlife surveys, specific to the final construction timeline and designated pipeline alignment, would be completed for special status species, federally listed species, or California protected species specified by the USFWS or the CDFG, to minimize the potential for causing mortality of local wildlife. However, for purposes of the impact analyses and resultant mitigation, all relevant species are presumed to exist in the vicinity of the proposed Project.

G437-205
As discussed, surveys have been conducted. Mitigation measures include preconstruction surveys for confirmation of previous results.

this essential task – the environmental impact analysis for sensitive biological resources - the DEIS/R is deficient. The public is entitled to be provided the information regarding a project's impacts during the process, not after. Lead agencies cannot circumvent the public nature of the NEPA and CEQA review processes by deferring impact analysis and mitigation to a time after the DEIS/R is certified.

Deferral of Identification of Tree Removal Impacts

As another example of deferred environmental analysis, the DEIS/R states that, "the linear feet of tree rows that could be removed during construction are unknown at this time." (p. 4.8-42.) This impact is to be determined later, after the public NEPA and CEQA environmental review period has ended. Such deferral of impact determinations violates CEQA and NEPA, because, even with promises of mitigation MM TerrBio-3b ("Tree Avoidance and Replacement"), there is no estimate of how many trees or linear feet of tree rows would be removed, and thus no way to ascertain if this impact is significant or not or whether the proposed mitigation is feasible and effective. This measure itself defers identification of impacts and defers determination of mitigation. It fails to identify which areas of trees will be preserved and which areas will be removed. It also fails to specify a replanting ratio for trees that cannot be avoided, and merely requires subsequent preparation of undefined "Tree Replacement Plan." Since a primary purpose of an EIS and EIR is to identify impacts and feasible ways to mitigate them, this procrastination of impact determination violates NEPA and CEQA. G437-206

Deferral of Identification of Impacts to Riparian Habitat

Similarly, MM TerrBio-3c fails to identify which areas of riparian habitat, protected as sensitive by the California Department of Fish and Game and the Coastal Commission, will be avoided and which areas will be protected. Instead, it defers the impact analysis and the mitigation measures to a later time, after the public NEPA and CEQA process is over. Without information regarding which riparian areas will be avoided, the EIS/R is deficient. This mitigation measure is ineffective and unenforceable because it does not specify standards to identify which riparian habitats are to be avoided. Contrary to the requirements of CEQA and NEPA, it defers development of the mitigation plan without standards to ensure the impact will be mitigated to the maximum extent feasible as required under CEQA. G437-207

Failure to Evaluate Impacts of Drilling Mud Release During HDD Operations

The DEIS/R identifies a "remote potential for drilling fluid seepage" (p. 4.8-33) but never discusses what the effect of such seepage would be. Under NEPA and CEQA, an EIS/R must describe the significant environmental effects of the proposed project, direct *and indirect*, including those that cannot be mitigated to less than significant. In our understanding of HDD projects in Santa Barbara County, release of drilling muds is more than a remote possibility; rather, other HDD projects are known to have resulted in releases of drilling mud into aquatic environments. The DEIS/R fails to accurately disclose the potential for toxic drilling mud seeps and to describe the impacts of such releases on aquatic habitats and species. G437-208

G437-206
Table 4.8-6 contains additional information this topic.

G437-207
Figures within Section 4.8 identify riparian habitat, and Section 4.8.4 contains mitigation measures for the protection of riparian habitat.

G437-208
Sections 2.6.1, 2.7.2, and 4.8.4 contain additional information on this topic. Horizontal directional boring (HDB) would be used for the shore crossing. The Applicant's Drilling Fluid Release Monitoring Plan is included in Appendix D1.

Incorrect Classification of Impacts to Special Status Plants and Wildlife

CEQA Guidelines section 15065 requires that a lead agency must make a mandatory finding of significance when a project would "reduce the numbers or restrict the range" of a rare, threatened or endangered species. If a lead agency makes a mandatory finding of significance, it can only adopt CEQA findings to approve a project if it determines that all feasible alternatives and mitigation measures have been adopted. The DEIS/R finds that "the loss of individual or known habitats of rare, threatened, or endangered plant species would be considered significant." Yet it states that, "[a] comprehensive botanical survey has not been conducted; therefore, it is not known whether the rare or special status plants along the proposed pipeline route are present, how the proposed action will affect such species, and whether these impacts may be mitigated or avoided. Specific information regarding special status species is derived from the CNDDB."[68]

The DEIS/R acknowledges habitat for at least 15 special status plant species along the Center Road Pipeline Route and Line 225 Pipeline Route. It finds that the project could "remove sensitive vegetation types, individuals, seeds or their habitat during excavation, cause erosion/sedimentation … result in hydrologic alteration of wetlands or special status plant species …. or facilitate weed invasions," and that project maintenance could "crush vegetation." However, in contrast to CEQA's requirement that such impacts be classified as significant, the DEIS/R incorrectly classifies these impacts as less than significant. Therefore, with regards to specials status plant species, (1) the baseline is not adequately known or described and necessary surveys have improperly been deferred until to after the public EIS/R review process, and (2) the DEIS/R fails to identify expected loss of rare plants as a significant impact. G437-209 G437-210

Similarly, the DEIS/R notes the presence of burrowing owls, a State Species of Concern. It finds that project activities could, "crush, smother, hit, or bury wildlife in their nests/burrows." (DEIS/R, p. 4.8-49.) Such impacts to rare species such as burrowing owls (Impact TerrBio-9: "Temporary or Permanent Construction Impacts on Sensitive Species and/or Habitats") must be identified as significant. (DEIS/R, pp. 4.8-49, 4.8-54.) In addition, the DEIS/R must consider that California law expressly prohibits destruction of occupied nests, and provides no permitting mechanism for such destruction. G437-211 G437-212

4.8.4 Mitigation Measures

Release or Spill of Drilling Muds

If there is a release of toxic drilling muds into wetlands, streams or other waters, this is a potentially significant impact, but no specific mitigation measure in the DEIS/R addresses or includes standards for the cleanup of drilling muds. The mitigation proposed in case of a release of drilling muds into wetlands, streams or other aquatic habitats merely defers identification of G437-213

[68]/ See comments on Section 4.8.1 re CNDDB Disclaimer.

G437-209
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed surveys of the pipeline rights-of-way in accordance with California Department of Fish and Game protocol. Surveys included a wetland delineation survey that meets the California Coastal Commission and California Department of Fish and Game wetland definition, botanical and wildlife surveys for Federal and State listed species, a wintering waterfowl survey, a burrowing owl survey, and surveys to determine whether any oak trees would need to be removed during construction. Section 4.8 has been updated with the results of these surveys, and Section 4.8.4 contains updated mitigation measures. Additional preconstruction plant and wildlife surveys, specific to the final construction timeline and designated pipeline alignment, would be completed for special status species, federally listed species, or California protected species specified by the USFWS or the CDFG, to minimize the potential for causing mortality of local wildlife. However, for purposes of the impact analyses and resultant mitigation, all relevant species are presumed to exist in the vicinity of the proposed Project.

G437-210
Sections 4.8.4 and 4.8.5 contain additional information on this topic.

G437-211
Sections 4.8.1 and 4.8.5 contain addtional information on this topic.

G437-212
As described throughout Section 4.8, according to the February 2005 survey report, no burrowing owl nests or evidence of burrowing owls were found within the Project area.

G437-213
Drilling mud would only be used for the horizontal directional boring (HDB) at the shore crossing and potentially for horizontal directional drilling at other waterbody crossings. With HDB, drilling mud is under minimal pressure; therefore, the potential for a release is reduced. Cleanup of spills is a regulatory requirement, so mitigation is focused on prevention and response. Appendix D contains the Applicant's Drilling Fluid Release Monitoring Plan, which meets the resources agency's typical content requirements.

the mitigation action (HDD Contingency Plan). Under CEQA, mitigation measures must be known, feasible, effective and enforceable.[69]

The proposed mitigation MM Wat-5a merely requires preparation of a plan at a later time, after the public NEPA/CEQA process is over. The standards and cleanup actions for a cleanup plan are not described in the DEIS/R. It only states that the deferred Plan shall include provisions to: G437-214

- ensure work is stopped if there is a leak,
- maintain containment equipment onsite,
- add a dye to the muds to detect leaks sooner,
- ensure a biological monitor is onsite at all times, and
- report all seeps to appropriate agencies.

All of these actions except notifying agencies of leaks are measures to be taken *prior* to HDD implementation; none of them are requirements for or standards to guide cleaning up spills when they occur.[70] Accordingly, the mitigation measure does not provide sufficient performance standards to ensure that the impact will be mitigated to a less than significant level. Similarly, MM TerrBio-1b includes preventative measures but lacks any specific containment or clean up actions or standards to ensure significant biological impacts are mitigated the event there is a release of drill muds due to a spill or leak. Thus, while preventative measures are important, this mitigation measure does not avoid, reduce or otherwise minimize the impacts that result after a spill or leak occurs because it lacks guidance or standards for cleanup. It defers preparation of cleanup requirements without including cleanup standards, and it thus cannot be relied upon as an effective, enforceable measure pursuant to the CEQA Guidelines.

In addition, MM WAT-5b ("Strategic Location for Drilling Muds and Cuttings Pit"), includes a vague threshold for when a clean up is required. It states (p. 4.18-24) that "[i]f the fracture becomes excessively large, call in a spill response team to contain and clean up excess drilling mud in the water." "Excessive" is not adequately defined and therefore this mitigation measure is not enforceable or effective, as required under CEQA. Moreover, the measure defers determinations regarding what clean up actions will be necessary. It requires "consult[ation] with regulatory agencies to determine the next appropriate step to clean up the area." These contingency steps should be described in the DEIS/R to ensure, in the context of this NEPA/CEQA process, that the impact will be effectively mitigated. Instead, no standards for what mitigation actions a clean up must entail are included, so it is impossible to find this measure mitigates this potentially significant water quality and biological impact to the maximum extent feasible. G437-215 G437-216

[69]/ CEQA Guidelines Section 15126.4(a)(2). Also, preparation of mitigation measures may not be deferred to a later time or another agency; under CEQA, effective mitigation measures must be included in the EIR. (CEQA Guidelines Section 15126(a)(1)(D).)

[70]/ Based on experience with monitoring other HDD projects, leak of drill muds into watery environments is not a rare occurrence and should be expected to occur.

G437-214
Appendix D1 is the Applicant's Drilling Fluid Release Monitoring Plan. The plan is similar to others that have successfully reduced the effects of releases of drilling fluids and meets the resource agency's direction regarding content.

G437-215
The mitigation measure is now MM WAT-4a and it has been updated.

G437-216
See the response to Comment G437-215

Similarly, Measure MM TerrBio-1b ("Spill Containment / Management") requires that a spill containment kit be kept on-site at all times, but does not require personnel trained in using the kit under emergency situations. This same measure explicitly defers the development of a "Spill Prevention, Control, and Countermeasure Plan" without standards for what the plan must contain to mitigate impacts, and without a deadline for completion of the plan and approval by the lead agencies during the public NEPA/CEQA review period. G437-217

Impacts to Upland Vegetation

The DEIS/R states that, "The applicant shall, to the extent feasible, avoid, minimize, and compensate for impacts on trees" and riparian habitat. (DEIS/R, p. 4.8-31.) However, the proposed mitigation measures (AMM Terr-Bio-3b and -3c) do not specify which trees, or which areas of trees may be avoided. They lump avoidance with minimization and compensation rather than specifying which treed areas will be avoided and which will be compensated for. The measures improperly defer identification of trees and other upland vegetation to be removed, including coastal sage, riparian habitats and other areas recognized as "environmentally sensitive habitat areas" pursuant to the California Coastal Act,[71] and they fail to provide standards for determining which areas will be avoided and which areas will not. G437-218

Buffers

The DEIS/R (p. 4.8-53) expressly defers, without meaningful performance standards, the identification of the buffer size to be established around habitats to be protected. The buffer size and the restrictions within buffer areas are central to the mitigation measure's effectiveness. They should be spelled out in the DEIS/R to ensure impacts are mitigated to the maximum extent feasible through the public NEPA/CEQA process. G437-219

Protected Specified Bird Species

Measure MM TerrBio-9c requires that, if avoidance of protected bird species is not feasible, the applicant must develop appropriate mitigation at a later time in consultation with other agencies. This measure defers the mitigation and includes no standards for what that mitigation plan entails. This approach improperly deprives the public including biologists of their chance to consider this mitigation measure in the review process, and to determine if the measure is adequate to mitigate significant impacts to the maximum extent feasible as required under NEPA and CEQA. G437-220

Water Crossings

Measure AMM TerrBio-6a improperly defers mitigation of impacts resulting from water crossings to a hypothetical future Corps of Engineers permit action. (DEIS/R, p. 4.8-47.) Instead, the EIS/R must disclose what areas will be affected by trenching and by HDD and which G437-221

[71]/ Public Resources Code § 30107.5.

G437-217
Mitigation measures do not include legal requirements. 40 CFR 112 specifies the requirements for a Spill Prevention, Control, and Countermeasures Plan (SPCC Plan). 40 CFR 112.7(f), Personnel Training and Discharge Prevention Procedures, specifies the personnel training requirements.

G437-218
Sections 4.8.1 and 4.8.4 contain additional information on this topic. Tables in Section 4.8 provide information on trees that could be in or near the pipeline corridor.

G437-219
Section 4.8.4 discusses this issue.

G437-220
The impact analysis and mitigation measures in Section 4.8.4 have been updated based upon the results of biological surveys.

G437-221
Tables 4.18-5 and 4.18-6 in Section 4.18 (Water Quality) describe crossing methods for each waterbody on the proposed Center Road Pipeline and the Line 225 Pipeline Loop.

areas will be avoided. It must explain the mitigation measures that will be employed to ensure significant impacts are mitigated.

Pre-Construction Surveys

In a similar fashion, MM TerrBio-2a ("Pre-Construction Surveys") and MM TerrBio-6b ("Species Surveys") defer the determination of whether a sensitive species or resource can be avoided because not enough is known about the environmental baseline to make this determination in the DEIS/R. The DEIS/R needs to present information that can illustrate whether sensitive resources can be avoided. The lack of this information in the DEIS/R precludes full and effective review of the proposed action's impacts. G437-222

Erosion Control

Measure AMM TerrBio-1a relies on future actions by other agencies to develop important erosion control mitigation measures. These actions will occur outside of the public NEPA/CEQA review process. The standards provided are too general to ensure significant sedimentation impacts would be mitigated. Additional mitigation or avoidance is feasible through measures that avoid trenching through wetlands, waterways, and aquatic habitats, and limiting trenching and HDD to the dry season. G437-223

Lack of Standards in Biological Monitoring Measure

AMM TerrBio-2d states the qualifications for the Biological Monitor, but fails to specify the minimum qualifications for all biological monitors working under the Biological Monitor. Our experience with post approval monitoring shows that biological monitors for pipeline projects often lack adequate species identification skills. Therefore, this measure should specify minimum qualifications, including relevant academic and work experience, for all persons conducting biological monitoring. G437-224

Confinement of Activity to Right-of-Way

Measure AMM TerrBio-2e protects resources outside of the Right-of-Way, and would be more effective if it also required protection of all sensitive resources inside of the Right-of-Way. Additional feasible mitigation or avoidance of sensitive resources within the Right-of-Way is feasible. Given the width of the Right-of-Way, sensitive areas (e.g., areas of native vegetation) within Right-of-Ways could be flagged and avoided where feasible to further lessen biological impacts. G437-225

Failure to Evaluate Environmental Impacts of Mitigation Measures

AMM TerrBio-3a ("Seed Bank Retention") would preserve and redistribute topsoil with its seed bank for the purpose of minimizing biological impacts. This measure would result in an increase to the potentially significant Impact TerrBio-5 and cause significant impacts to native plant G437-226

G437-222
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed surveys of the pipeline rights-of-way including a wetland delineation survey, botanical and wildlife surveys for Federal and State listed species, a wintering waterfowl survey, a burrowing owl survey, and surveys to determine whether any oak trees would need to be removed during construction.

Mitigation measures include pre-construction surveys to confirm the results of the above-mentioned surveys.

G437-223
Sections 4.8.4 and 4.18.4 contain information on erosion control measures.

G437-224
The qualifications outlined in Section 4.8.4 for Biological Monitors are minimum qualifications for all biological monitors, including assistants.

G437-225
Sections 4.8.4 and 4.18.4 include mitigation measures that would help to reduce or avoid impacts on sensitive resources within the proposed rights-of way.

G437-226
Section 4.8.4 contains revised information on AM TerrBio-4a, which specifies the activities that would be implemented to minimize the spread of invasive weeds.

communities if implemented in areas containing invasive non-native plant species because it would foster dispersal of such plants. The DEIS/R does not evaluate this impact, nor does it include effective measures to avoid or mitigate this impact. To mitigate the impact of this mitigation measure, the measure should only be implemented where there is a native seed bank (as determined by comprehensive pre-construction surveys), and, only in areas that cannot be avoided by pipeline rerouting or HDD.

Inadequacy of Wetland Impact Mitigation

Measure MM TerrBio-4a is inadequate for avoiding or mitigating the proposed action's wetland impacts, and is likely incapable of satisfying future regulatory requirements of the Corps of Engineers, the California Coastal Commission, and the California Department of Fish and Game. G437-227
The proposed mitigation for the project's wetlands impacts must be thoroughly revised by inclusion of full baseline and impact analysis, and through a clear mitigation prioritization system. The DEIS/R first must identify all wetlands as noted above. To ensure impacts are mitigated to the maximum extent feasible, the document should specify which wetlands are to be G437-228
avoided and which cannot. The project should avoid all wetlands to the maximum extent feasible to ensure significant impacts are avoided or minimized. HDD should be preferred to trenching, but HDD should be routed to avoid potential impacts to wetlands as well. If wetlands are not to be avoided, compliance with the California Coastal Act and local coastal plan policies must be investigated more thoroughly given the Coastal Act's strong wetland protection provisions. If direct impacts to wetlands would result, the DEIS/R must include a wetland G437-229
restoration plan for wetlands to be impacted, or at minimum, standards for what such a plan would include to ensure unavoidable wetland impacts are mitigated.

Failure to Consider Avoidance Measures for Sensitive Species and Habitats

The DEIS/R does not propose any mitigation measures that would route the pipeline to avoid the G437-230
significant impacts of both HDD and trenching in wetlands, sensitive species habitats, habitats protected by local, State or Federal policies, and other water bodies or streams. Under NEPA and CEQA, the preferred mitigation for significant impacts is to avoid such impacts when G437-231
feasible. The DEIS/R does not evaluate any alternatives that would avoid the need for trenching or HDD within or under wetlands or other aquatic habitats, and would thus avoid potential impacts of drill mud release into wetlands and waters.

Similarly, the DEIS/R does not evaluate avoidance of wetlands as a mitigation measure to avoid G437-232
the potentially significant impact of erosion and sedimentation associated with trenching in aquatic habitats. Rerouting the pipeline to avoid such areas is the most effective way to avoid or G437-233
minimize this impact. However, the DEIS/R does not consider avoidance as a mitigation measure. The baseline conditions are not well known so the DEIS/R cannot say whether the Project might avoid a resource via rerouting. Therefore the DEIS/R should be revised to G437-234
accurately portray the baseline conditions and to analyze the feasibility of avoiding wetlands, habitats, waterways and water bodies.

2004/G437

G437-227
The Applicant completed a wetland delineation identifying wetlands and waters of the U.S. along the Project pipeline routes and at the proposed metering stations. Section 4.8.4 addresses potential impacts on wetlands. Mitigation measures presented in Section 4.8.4 have been developed to avoid, minimize, or reduce impacts on wetlands and waters of the U.S. during construction activities. Tables 4.18-5 and 4.18-6 also provide descriptions of the waterbodies, most of which are concrete flood control channels or agricultural drains, along the proposed pipelines and alternatives. Project construction along the proposed Center Road and Line 225 Loop pipeline loop routes would result in minor and short-term impacts on areas identified as wetlands and waters of the U.S. No permanent impacts would be expected because no structures would be placed within wetland features, and the effects of trenching would be temporary with the mitigation identified.

The USACE cannot issue permits until after the EIS/EIR process has been completed. The wetland mitigation plan would be developed as part of the USACE permitting process. The wetland mitigation plan would describe the Project's temporary impacts and how construction would restore the features to their preconstruction conditions or better. The wetlands mitigation plan would be submitted after the Project is approved and the final routes are determined.

G437-228
Tables within Section 4.8 list and summarize wetlands that would be traversed by the proposed Center Road Pipeline and Line 225 Pipeline Routes. Also see the response to Comment G437-227.

G437-229
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed wetland delineations (using Army Corps of Engineers definitions and California Coastal Commission and California Department of Fish and Game wetland definitions where appropriate) for the proposed pipeline routes. Section 4.8.1 presents a discussion of baseline wetland conditions from these wetland delineations.

G437-230
The Project has been modified since issuance of the October 2004 Draft EIS/EIR. Section 2.7.2 describes the methods that would be used to cross dry and wet watercourses. Section 2.6.1 describes the shore crossing method. Sections 4.8.1 and 4.18.1 describe surface water features.

Sections 4.8.4 and 4.18.4 provide mitigation measures for potential impacts to minimize or avoid impacts on water bodies, wetlands, riparian habitat, and trees.

G437-231
See the response to Comment G437-230.

G437-232
Alternatives to both the proposed Center Road Pipeline and the Line 225 Pipeline were studied for potential reductions in environmental impacts, including impacts on wetlands. The comparison of wetland impacts is presented in Tables 4.8-2a and 4.8-2b.

G437-233
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed wetland delineations (using Army Corps of Engineers definitions and California Coastal Commission and California Department of Fish and Game wetland definitions where appropriate) for the proposed pipeline routes. Section 4.8.1 presents a discussion of baseline wetland conditions from these wetland delineations.

G437-234
See the response to Comment G437-233. Wetlands for each route have been delineated and the potential impacts for each route on wetlands are described in Section 4.8.4.

Failure to Evaluate Impacts of Stream Bank Stabilization

The DEIS/R fails to specify the techniques that will be used to stabilize affected stream banks. If bank stabilization would entail the use of riprap or other hard bank stabilization methods (e.g., gabions, retaining walls), the DEIS/R should disclose these techniques, and find that the proposed action will result in a significant impact. Such methods can increase downstream bank erosion by deflecting flows. In addition, they prevent regrowth of riparian vegetation. Therefore, all bank stabilization methods should be bio-technical and utilize native plant materials to mitigate biological impacts of crossing to the maximum extent feasible. G437-235

Seasonal Avoidance of Trenching and HDD

For those wetlands, streams, habitats and other waters that cannot be avoided, restricting trenching to the dry season is a feasible and effective mitigation measure to reduce erosion and sedimentation. The Los Angeles Regional Water Quality Control Board recommends timing grading to avoid the rainy season to reduce erosion and sedimentation. This measure is feasible and effective. The DEIS/R must be revised to consider avoidance of HDD under habitats and trenching through habitats when feasible, and timing trenching to avoid the rainy season when complete avoidance is not feasible. G437-236

4.8.5 Alternatives

Due to the lack of specificity regarding both pipeline routes and impacts on sensitive biological resources, the DEIS/R fails to provide sufficient information to allow comparison of the various alternatives. This failure represents a fundamental flaw under NEPA and CEQA that must be corrected in the DEIS/R G437-237

Point Mugu Shore Crossing/Casper Road Pipeline

This alternative notably increases impacts to freshwater/brackish wetlands, beaches, and dunes, and non-tidal salt marshes. (DEIS/R, p. 4.8-59.) Therefore, under CEQA, this alternative should be rejected because CEQA requires alternatives that avoid or substantially lessen significant impacts.[72] G437-238

Line 225 Alternative 1

The purpose and need for the Santa Clarita Valley pipeline are not clearly specified in the DEIS/R, so it is not apparent why this pipeline is required as a component of the proposed action, or why only two alignments are considered in the DEIS/R. The DEIS/R must evaluate a full range of alternatives alignments that avoid or minimize impacts associated with crossing the Santa Clara River and San Francisquito Creek. The DEIS/R states (p. 4.8-57) that "USFWS and CDFG may be amenable to an HDD crossing, although there would be concerns regarding G437-239 G437-240

[72]/ CEQA Guidelines §§ 15126.6(a) and (c).

G437-235
Section 4.8.4 includes a mitigation measure for avoidance and restoration of riparian habitat, in consultation with the CDFG.

G437-236
The Project has been modified since issuance of the October 2004 Draft EIS/EIR. Section 2.7.2 describes the methods that would be used to cross dry and wet watercourses. Section 2.6.1 describes the shore crossing method. Sections 4.8.1 and 4.18.1 describe surface water features.

Sections 4.8.4 and 4.18.4 contains information on erosion control measures. The measures identified have been proven to be effective based on experience with other pipeline projects. It is impossible to avoid linear features such as streams when constructing a pipeline, which is also linear.

G437-237
Terrestrial biological resources were evaluated within a pipeline corridor that would include both the construction and permanent rights-of-way. Even though the precise alignment of the pipeline within the corridor would not be determined by SoCalGas until final engineering design, the impacts of any potential pipeline alignments within the corridor have been evaluated.

G437-238
Section 4.8.5.4 states that because the HDB crossing at the Point Mugu shore crossing would be longer than the Arnold Road shore crossing, more terrestrial biological resources would be impacted if a release of drilling fluids were to occur. This factor will aid decisionmakers in their consideration of the proposed Project.

G437-239
Sections 1.0, 2.4, and 3.3.12.2 discuss the need for the Line 225 Loop.

releases oaf drilling muds within the river." This lack of specificity regarding pipeline stream crossing techniques makes it impossible to compare this alternative alignment to the proposed action. The DEIS/R must clearly specify the alignment and crossing techniques and evaluate the full range of environmental impacts. G437-240

Consistency with State, Regional, and Local Plans and Policies

The discussion of the proposed action's consistency with applicable state, regional, and local plans and policies in the DEIS/R Land Use section is wholly inadequate. Applicable plans and policies regarding biological resources, including sensitive species and wetlands, must be considered in the analysis of the proposed action's impacts on terrestrial biological resources. The DEIS/R dos not analyze the project's consistency with specific local jurisdictions' general plan and local coastal program policies for the protection of biological resources, including the County of Ventura (which has specific wetland avoidance and buffer policies, for example), the City of Oxnard (which has strict resource protection policies for coastal areas), the City of Camarillo, and the City of Santa Clarita. Inconsistencies trigger a finding of significant biological impact according the significance criteria described in the DEIS/R (p. 4.8-30). Instead of assessing the project's compliance with each relevant local policy, the DEIS/R merely boils down very broad goal statements from each agency's general plan or local coastal plan and makes broad conclusory statements about consistency without evaluating the project against specific provisions of these plans. The DEIS/R must consider each relevant provision of general plans, local coastal programs, and other policies within affected jurisdictions. G437-241

In addition, by deferring special status plant surveys and failing to adequately describe the baseline biological setting (e.g., wetlands, environmentally sensitive habitat areas, etc.), the DEIS/R cannot properly measure the project's impacts against another stated Significance Criterion: whether the Project adversely affects a species, natural community or habitat that is recognized as biologically significant in local, State or Federal policies, statutes or regulations. G437-242

The DEIS/R does not analyze the proposed action's consistency with the California Coastal Act, which regulates all uses in a wide range of wetlands (areas that meet at least one of three parameters discussed above) and other "Environmentally Sensitive Habitats."[73] G437-243

Some activities associated with the project appear to require coastal development permits from local jurisdictions. These permits could be appealed to the Coastal Commission. In addition, the Commission may have original permit jurisdiction in certain areas. Therefore, statements in the DEIS/R that a Coastal Consistency Determination is needed (p. 4.13-14) suggesting this is the Coastal Commission's only role should be verified to determine whether coastal development permits may be required. Regardless of requirements for CDPs, any conflict with local coastal program or Coastal Act biological protection policies trigger a significant biological impact pursuant to the DEIS/R's Significance Criteria, and each such potential inconsistency must be evaluated. G437-244

[73]/ California Public Resources Code §§ 30233, 30107.5 and 30240.

G437-240
Tables 4.18-5 and 4.18-6 in Section 4.18 (Water Quality) describe crossing methods for each waterbody on the proposed Center Road Pipeline and the Line 225 Pipeline Loop.

G437-241
Sections 4.8.1, 4.8.2, 4.13.1 and 4.13.2 contain revised information on this topic.

G437-242
Subsequent to the completion of the October 2004 Draft EIS/EIR, the Applicant completed surveys of the pipeline rights-of-way in accordance with California Department of Fish and Game protocol. Surveys included a wetland delineation survey that meets the California Coastal Commission and California Department of Fish and Game wetland definition, botanical and wildlife surveys for Federal and State listed species, a wintering waterfowl survey, a burrowing owl survey, and surveys to determine whether any oak trees would need to be removed during construction. Section 4.8 has been updated with the results of these surveys, and Section 4.8.4 contains updated mitigation measures. Additional preconstruction plant and wildlife surveys, specific to the final construction timeline and designated pipeline alignment, would be completed for special status species, federally listed species, or California protected species specified by the USFWS or the CDFG, to minimize the potential for causing mortality of local wildlife. However, for purposes of the impact analyses and resultant mitigation, all relevant species are presumed to exist in the vicinity of the proposed Project.

G437-243
Section 4.8.1.1 includes additional information on this topic.

G437-244
Section 1.6 contains information on this topic. Section 4.13.2.2. provides information regarding the City of Oxnard Coastal Plan. The proposed Project is consistent with the local coastal plan.

The DEIS/R refers (p. 4.8-44) to backfilling in wetlands. It should be noted that any filling in wetlands within the coastal zone is strictly governed by sections 30233 and 30240 of the Coastal Act, which generally prohibits fill in wetlands except for limited activities. To assure compliance, wetlands subject to the Coastal Commission's jurisdiction must be identified and avoided – including avoiding HDD beneath such habitats. G437-245

4.9 CULTURAL RESOURCES

The DEIS/R fails to describe when it is feasible and when it is not feasible to avoid archeological sites. (AMM Cul-2a.) Thus, this measure defers determinations as to when archeological sites can be avoided, and does so without standards for ascertaining which sites would be avoided. This approach violates CEQA's requirement that mitigation measures must be effective and enforceable, and cannot be deferred. G437-246

4.10 ENERGY AND MINERALS

4.10.1.1 California Natural Gas Plan

Again, as stated above, the projected increase in gas demand is based on the out-dated, unrealistic "business-as-usual" scenario. This scenario is already obsolete as a result of CPUC decisions on energy efficiency (September 2004) and Community Choice Aggregation (December 2004). Accordingly, the DEIS/R must be revised to accurately project the state's energy demand, including the ranges of scenarios projected by the CEC and documented in this comment letter. (See Exhibits 1 - 5.) G437-247

See comments above regarding Energy Conservation and Renewable Energy Sources.

By increasing our dependence on foreign sources of energy, this project would actually reduce our energy stability. A firm supply has not been identified. In addition, California will have no control over the production of this source of energy, and the supply could be halted or interrupted at any time. This disruption may be intentional or unintentional (e.g., intentional due to competing demand from other purchasers, international political instability or pricing conflicts; unintentional from accidents or unexpected low production results). Additionally, poor weather and sea conditions may prevent the LNG vessels from berthing at the FSRU. The DEIS/R should disclose and analyze these reliability concerns. G437-248

4.11 GEOLOGIC RESOURCES

The DEIS/R is missing critical information in its analysis and assessment of seismic impacts and risks, such as:

- Missing earthquake fault data G437-249
- Incomplete assessment of seismic hazards G437-250

G437-245
Section 4.8.1.1 contains a discussion of the regulatory duties of the California Coastal Commission, the California Department of Fish and Game, and the U.S. Army Corps of Engineers, including coordination required among these agencies regarding wetland permits.

G437-246
Section 4.1.5 contains information and revised text on this topic. Applicant mitigation measures from the October 2004 Draft EIS/EIR have been renamed as applicant measures and are included in the Project description.

G437-247
Sections 1.2.3 and 4.10.1.3 contain additional information on this topic. See also responses to Comments G437-2, G437-5.1, and G437-38. The analysis in Sections 1.2.3 and 3.3.2 relies on up-to-date published material on natural gas energy demand in California. The CEC's 2005 Integrated Energy Policy Report Committee Final Report provides the energy context for California's natural gas needs. The California Legislature recognizes that the CEC is the State's principal energy policy and planning organization and that the CEC is responsible for determining the energy needs of California. These responsibilities are established in State law (the Warren-Alquist State Energy Resources Conservation and Development Act [Public Resources Code, Division 15]).

G437-248
Section 1.2.5 addresses this topic. Sufficient storage capacity at the FSRU would ensure a continuous supply of natural gas for those times when LNG carriers cannot dock due to weather or other unforeseen conditions.

G437-249
Section 4.11.1.2 contains additional information on this topic.

G437-250
Section 4.11.1.2 contains additional information on this topic.

- Incomplete assessment of pipeline risks G437-251
- Failure to recognize a wide variety of *known significant* seismic hazards throughout the Project area G437-252
- Incomplete assessment of seismic risks G437-253
- Proposed mitigation of seismic risks is hypothetical G437-254

As a result, the analysis and recommended mitigation measures are deficient. For a complete description of this impact area, see comment letter submitted by Kraig Hill.

As noted in the California Coastal Commission's *Offshore LNG Terminal Study*, siting an offshore LNG terminal raises concerns about earthquake faults, and the difficulty in conducting offshore underwater seismic and soils evaluations because of intervening water depths.[74] Also, for the pipelines, the Study states that "Crossing to the Santa Barbara Channel Islands, however, presents many serious construction problems for a subsea gas pipeline, including: crossing steep and unstable slopes, crossing water depths to 770 feet that strain expected subsea pipeline laying capabilities, and presence of strong bottom currents."[75] The proposed project is located offshore in 2,900 feet; therefore there are serious concerns about the siting of not only the facility, but also the offshore pipelines.

4.13 LAND USE

As noted above, the DEIS/R lists but does not analyze the proposed action's consistency with specific plans, policies and regulations. Instead, the report expressly defers analysis of the proposed action's consistency with the California Coastal Act. As a result, the DEIS/R fails to consider or identify land use impacts related to conflicts with plans and policies, even though this is listed as a threshold for triggering a significant impact. G437-255

See comments above, under Biology.

4.14 NOISE

Please see section 4.7 above, for impacts of noise on marine wildlife.

4.15 RECREATION

The DEIS/R needs to correct the safety and exclusion zones based on a renewed safety analysis per the above comments. In addition, the DEIS/R needs to consider the fact that LNG tankers will be constantly arriving, berthing and unloading, and leaving, so the exclusion zones will be constant. G437-256

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[74]/ California Coastal Commission, *Offshore LNG Terminal Study*, September 15, 1978, p. 32.
[75]/ Id., p. 36.

G437-251
Section 4.2.8.2 contains an updated analysis of pipeline risks.

G437-252
Section 4.11.1.2 contains additional information on this topic.

G437-253
Section 4.11.4 contains additional information on this topic.

G437-254
Section 4.11.1.10 discusses additional studies on this topic that were conducted. Section 4.11.4 discusses the mitigation of seismic risks. Mitigation measures are consistent with approved pipeline design practices in the State of California.

G437-255
Section 4.8.1.1 includes additional information on this topic. Section 4.13.2.2 discusses consistency with major and regional plans.

G437-256
Sections 2.2.4, 4.3.1.4, and 4.3.4 address the size of the safety zone, how it would be established, and the potential impacts on marine traffic. The FSRU would be able to rotate 360° around the mooring turret. The safety zone would extend 500 m from the circle formed by the FSRU's stern, the outer edge of the facility, rotating around the mooring turret. See Figure 4.3-4 for an illustration of the potential safety zone and area to be avoided. The safety zone could not be made any larger because its size is governed by international law.